

**Post-closure Care Requirements for Solid Waste Facilities
Determining if Post-Closure Care Can End or Must Continue
Staff Guidelines**

Introduction-

Virginia's Solid Waste Management Regulations (VSWMR, 9 VAC 20-80-10 et seq.) require disposal facilities to perform post-closure care following closure of the facility. Solid waste disposal facilities are required to perform post-closure care in order to ensure environmental and public health safety after closure. Disposal facilities include, but are not limited to sanitary landfills, CDD landfills, and industrial landfills. Post-closure requirements include groundwater monitoring, gas monitoring, leachate collection, stormwater management, and maintenance of any final cover.

By regulation, facilities that were not closed on December 21, 1988 and stopped receiving waste by October 9, 1993 are subject to post-closure requirements for ten (10) years. Sanitary landfill facilities that ceased to accept waste on or after October 9, 1993, are required to provide post-closure care for thirty (30) years. CDD and industrial landfills are required to provide post-closure care for ten (10) years or until leachate is no longer generated, whichever is longer.

The post-closure period may be shortened or extended by the director (9 VAC 20-80-1410.2 and 9 VAC 20-80-250 F, 260 F, and 270 F). This guidance details the elements to be considered when deciding when the post-closure care period should be decreased, ended, or increased. This document also addresses allowing a facility to discontinue some post-closure care requirements, while remaining subject to other post-closure requirements.

In order to evaluate the appropriate length of a facility's post-closure care period, criteria have been developed to assist staff with the evaluation of the adequacy of post-closure activities. Many factors must be considered in order to determine if a facility should be released from or subjected to additional post-closure care requirements. As part of this review, department staff will verify the facility has met all applicable statutory and regulatory requirements, as well as permit and post-closure plan requirements.

Following the completion of the post closure care period, the owner or operator must submit a certification and an evaluation prepared by a Virginia registered professional engineer. The certification and evaluation should be submitted according to the guidance in Submission Instruction 20; "Components of the Professional Engineer's Certification and Evaluation required by §10.1-1410.2 B of the Code of Virginia." The certification must verify that the post-closure care period has been completed as required by the post-closure care plan. The evaluation must describe the landfill's potential for harm to human health and the environment when post-closure monitoring and maintenance are discontinued.

Acknowledgement from the department

Upon receiving the certification and evaluation, the department will acknowledge receipt of the package and will state that all post closure care activities will continue at the

facility until the package is reviewed and evaluated and the director releases the facility from post-closure responsibilities. Staff will review the post-closure certification and evaluation, as well as perform a post-closure termination inspection to verify closure and post-closure requirements have been met and to examine conditions present at the site.

Please keep in mind that the Submission Instructions (SI) are a guidance document. The department uses SI to attempt to obtain consistent documents that contain an appropriate level of information that the director can use to make the required determinations. If an applicant does not submit documents in the recommended format, DEQ cannot reject the document, but must provide review of the document. The applicant should be advised that submissions that are not formatted or do not contain the information outlined in the SI will take longer to review and may not contain the documentation necessary for the director to render a decision.

A national group has recently formed to discuss developing a performance-based system for post-closure care at municipal solid waste landfills that are subject to the standards of subtitle D. The group is focusing on developing a new approach to the thirty year time frame based approach to post-closure care for municipal solid waste landfills. This guidance document addresses the post-closure care requirements at all sanitary (MSW) landfills. The department will work with national groups and the EPA and will revise this guidance as changes are made to post-closure care requirements.

Background-

Virginia's regulations hold owners or operators responsible for the monitoring and maintenance of the facility during the post closure-care period to prevent the facility from impacting human health or the environment. The requirements for maintenance of pollution control equipment or engineering controls at the facility includes groundwater monitoring systems, gas monitoring systems, leachate collection systems, stormwater management, and maintenance of the cap. The regulations require owners or operators to continue to monitor groundwater and gas at landfills after the facility ceases to accept waste. The owners or operators must also continue to collect leachate, manage stormwater, and maintain the integrity of the final cover.

This guidance will assist staff in evaluating the length of the post-closure care period and with determining if the length of the post-closure care period should be decreased or increased, or if post-closure care monitoring requirements should be reduced or eliminated.

The issues discussed in this document are applicable when evaluating facilities with thirty-year post-closure care requirements. As mentioned previously, this guidance will be revised as additional guidance on post-closure care requirements becomes available.

Definitions-

"Closure" means the act of securing a solid waste management facility pursuant to the requirements found in the Virginia Solid Waste Management Regulations, 9 VAC 20-80-10 et seq.

“DEQ” means the Department of Environmental Quality.

“Director” means the director of the Department of Environmental Quality or his designee.

“GPS” means groundwater protection standards established for a specific facility.

“LEL” means the lower explosive limit of methane gas.

“Post-closure” means requirements placed upon solid waste disposal facilities after closure to ensure environmental and public health safety for a specified number of years after closure.

“VSWMR” means the Virginia Solid Waste Management Regulations, 9 VAC 20-80-10 et seq.

Guidance-

The following areas must be considered when evaluating the facility to determine the length of the post-closure period:

- Groundwater monitoring;
- Gas monitoring;
- Maintenance of monitoring systems;
- Leachate management;
- Stormwater management; and
- Final cover integrity.

Each of these items will be discussed in detail below. Any additional post-closure care requirements that are found in facility-specific post-closure care plans should be included in the evaluation. The Director may release an owner or operator from one or more post-closure requirements depending on the conditions present at the facility. The director’s authority for eliminating individual monitoring requirements will be discussed in appropriate sections below. This document does not restrict owners or operators from providing additional information demonstrating that a facility does not pose a threat to human health and the environment; however, this document does discuss elements that should be considered when performing the required evaluation.

Continuation of post-closure requirements

In some cases, facilities may pose a threat to human health and the environment and it is not appropriate for the director to reduce or discontinue post-closure care requirements. The director will not release an owner or operator from post-closure requirements if one or more of the following conditions exist:

- ◆ The facility has uncorrected/outstanding violations of environmental statutes or regulations.
- ◆ The facility has not completed corrective action for groundwater.
- ◆ Leachate generation poses a threat to human health or the environment.
- ◆ Gas migration poses a threat to human health or the environment outside of the facility boundary.
- ◆ The groundwater monitoring network is determined to be inadequate to provide information needed to evaluate the impact the facility has had on the groundwater.

- ◆ The final cover has had uncorrected or persistent maintenance issues through the post-closure period, which may cause the facility to pose a threat to human health or the environment.
- ◆ Any other condition is present that, in the opinion of the director, will not protect human health or the environment.

Continued post-closure care will be required if any of these conditions are present at the site. Post-closure care will continue until all of these issues are resolved and the facility no longer poses a threat to human health and the environment.

Staff should indicate that requests for the director to reduce or discontinue post-closure care requirements should not be submitted if any of the above conditions exist.

Areas subject to post-closure care (multiple units)

If a monitoring network is for multiple units, then the post-closure requirement will begin upon closure of the last unit. For example, if two contiguous units are monitored using one groundwater monitoring network, the post-closure period will begin once both units meet all of the provisions required for closure. The post-closure period will begin for both units on the same date since they can not be monitored separately, even though the units ceased accepting waste and were capped on different dates.

Components of the Post-Closure Care Period Review

Facility file review

Department staff will perform a file review to verify that the facility has met closure requirements in accordance with the VSWMR. At a minimum, department staff will verify the department's files contain the following information:

- ? a complete copy of the approved permit
- ? a facility site plan in the form of a survey plat created by a licensed surveyor clearly delineating the waste management footprint
- ? documentation demonstrating the deed notification has been recorded with the local land recording authority
- ? documentation demonstrating a note has been placed on the survey plat restricting disturbance of the site
- ? a copy of the facility's closure plan
- ? a copy of the Professional Engineer's statement certifying the facility has been properly closed in accordance with the approved closure plan
- ? a letter from the department certifying the facility is closed
- ? a copy of the most recently approved post-closure plan for the facility

If the department's files are lacking any of the above information, the owner or operator will be asked to provide the missing documentation. The above documents will be used to evaluate the post-closure period. Additionally, the Department will require verification from the Permittee that the deed restriction and the note on the survey plat remain on file with the local government.

As part of staff review, the date the facility began post-closure activities will be verified. Post-closure begins on the day the facility is deemed closed. In most cases, this begins on the date the professional engineer signed the certification stating the facility was properly closed. However, when the results of the department's closure inspection reveal all provisions of closure have not been completed, the date the department notified the facility that closure activities were satisfactory is the day post-closure care begins.

Additionally, during the file review, records of the sampling events required by the VSWMR, permit, and the post-closure plan will be examined to determine if all required monitoring has been performed during the post closure-care period. Missing or incomplete sampling data should be noted as a deficiency when determining compliance with the VSWMR.

If records are incomplete, additional post closure care activities may be required to address the missing documentation. Incomplete documentation may also warrant enforcement action against the facility. If documentation is not available for some activities, the requirements at the time closure activities took place will be examined to determine if a violation of the regulations has occurred as well as the extent of the violation.

Compliance review- compliance during the post-closure period-

Staff will review the compliance history of the owner or operator during the post-closure period for violations of Virginia statute, the VSWMR, the facility permit or the post-closure care plan. The severity of each violation will be examined to determine if the owner or operator has failed to protect human health and the environment during the post-closure care period. If the compliance history indicates that the owner failed to protect human health and the environment, the post-closure period may be extended. Enforcement action may be warranted based on the nature of the violation.

The facility must be in full compliance with Virginia's statutes and regulations, the facility permit and the post-closure care plan at the time the post-closure care requirements are reduced or discontinued. If an enforcement action has been taken in response to violations at the facility during the post-closure care period, the department will review the violations to verify the compliance issues have been fully resolved. If enforcement actions were initiated for failure to perform post-closure care activities, additional monitoring and/or maintenance may be required. For example, if violations were cited for failure to prevent discharges to state waters, the facility may be required to perform additional monitoring and/or maintenance to confirm the conditions that caused the discharge to state waters have been corrected. The facility may be required to demonstrate that steps have been taken to prevent future discharges to state waters. The director may request documentation from the owner or operator confirming that they have taken appropriate steps to protect human health and the environment and to prevent the violations from occurring at the facility in the future.

Review groundwater monitoring

As part of the evaluation of groundwater monitoring activities at the facility, the department will review the following:

- Is the facility undergoing corrective action?

If the facility is undergoing corrective action at the time of certification/evaluation, the facility will not be released from post-closure responsibilities until corrective action has been completed. A minimum of three (3) years of monitoring data indicating groundwater protection standards have not been exceeded is required before the owner or operator may request the director to release them from post-closure requirements. Sufficient data is required to support the trend analysis required to demonstrate that constituent levels are decreasing.

Some remedial activities rely on physical, biological, or chemical alteration of the compounds and involve the introduction of a catalyst or chemical product to initiate the desired reaction. During this type of remediation, the groundwater chemistry in the treatment zone is not representative of groundwater conditions either before or following completion of the remedy. Therefore, the period of time following the active phase of the remedy (e.g., injection/application of treatment materials or groundwater extraction) during which the groundwater conditions (physical, biological, chemical or hydrogeologic) remain effected by the treatment is considered part of the corrective action.

When the corrective action involves *in-situ* treatment- chemical, biologic or physical- all groundwater samples should be representative of conditions prior to the treatment or from areas not affected by the treatment (outside the treatment zone) both chemically and physically before the effectiveness of remedial activities is evaluated. For example, a remedy that involves the introduction of potassium permanganate would be considered *in progress* until such a time that the potassium and/or magnesium concentrations in the wells located in the treatment zone are at background levels. Caution should be exercised by the facility so that additives to the groundwater are not over-applied, extending the treatment period unnecessarily. For extraction techniques, groundwater flow should revert to essentially pre-extraction conditions prior to completing the corrective action.

- Have all semi-annual or quarterly groundwater monitoring events been performed during the post-closure period as required by the VSWMR or the facility permit?

If all required groundwater monitoring has not been performed, then the director may choose not to release the owner or operator from post-closure. The Director may require additional monitoring if groundwater monitoring has not been conducted according to the regulations and the facility permit during the post-closure care period. Additional monitoring events may be required to evaluate any potential impacts on the groundwater in the vicinity of the facility to ensure

protection of human health and the environment. The director may also require the owner or operator to submit information sufficient to demonstrate that the monitoring that has been performed even if it is less than 10 years/30 years is protective and appropriate.

- Is the groundwater monitoring plan/network adequate? Has the owner or operator added additional monitoring wells when required or requested to do so by the department?

The director will not release the owner or operator from post-closure care if the monitoring system at the facility is inadequate. An adequate groundwater monitoring plan/network must be in place for sufficient time to allow the groundwater trends to be evaluated accurately.

- Has the facility failed to implement assessment monitoring, phase II monitoring or corrective action when notified by the department (or within the timeframes established in the regulations)?

The director will not release the owner or operator from post-closure care if monitoring or corrective action has not been implemented as required. Additional groundwater monitoring events may be required by the director to obtain information that was not obtained due to the improper monitoring of groundwater.

- Has the owner or operator routinely submitted required data to the department for review?

Data from all monitoring events must have been submitted for review. If not, additional monitoring may be required.

- Has the owner or operator maintained all monitoring records through closure and post-closure, and are data from the monitoring events readily available to department staff?

The director will not release the owner or operator from post-closure if monitoring records are incomplete. Monitoring records are used to determine the impact (if any) a facility has had on groundwater. Without complete information, the department is unable to determine the impact the facility has had on the groundwater. Monitoring data or additional monitoring events may be required prior to considering the release of the owner or operator from post-closure care requirements.

- Are there any off site factors that influence groundwater behavior at the site?

If so, they must be identified and discussed along with the projected duration of the influence on the groundwater flow in the evaluation submitted by the facility owner or operator detailing the impact the facility has had on groundwater.

- Are constituent levels at the site increasing?

If a trend analysis indicates any constituent levels are increasing, the facility will not be released from post-closure groundwater monitoring. The director may release a facility from post-closure groundwater monitoring during any phase of monitoring as long as corrective action is complete and no constituent exceeds a groundwater protection standard and a trend analysis clearly indicates all constituent levels are decreasing. The trend cannot be influenced by remedial measures that may have been performed at the site that were not part of a required corrective action plan.

The most recent groundwater monitoring events will be evaluated in order to determine if additional groundwater monitoring events are warranted. Violations of the permit and regulations will be evaluated by compliance staff to determine if enforcement action is necessary.

If an owner or operator is allowed to discontinue groundwater monitoring, monitoring wells will continue to be maintained or a detailed well abandonment procedure must be submitted to the department for approval prior to wells being abandoned unless a procedure is not already provided in the facility permit.

Groundwater monitoring may be suspended during the active life of a facility and during post-closure if, the owner or operator submits a demonstration that there is no potential for migration of constituents listed in Table 5.1 to the groundwater during the active life or post-closure period. This demonstration must include: site specific measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport; and contaminant fate and transport predictions that maximize contaminant migration and consider impacts to human health and the environment. (9 VAC 20-80-300 A 1 c)

Review gas monitoring-

The regulations require a demonstration to be provided by the operator that there is no potential for gas migration beyond the facility boundary or into facility structures. (9 VAC 20-80-280 A 2). The director's acceptance of the demonstration however does not relieve facilities from requirements to perform monitoring as required by other regulations, specifically 40 CFR 60.33c, 40 CFR 60.750, and 9 VAC 5-40-5800.

The Director will evaluate the following:

- Is the gas-monitoring network adequate? Has the owner or operator added additional monitoring wells when required or requested to do so by the department or when required by the facility's gas management plan?

The director will not release the owner or operator from post-closure care if the gas monitoring network is inadequate. An adequate gas monitoring plan/network must be in place for a sufficient period of time to allow the migration of gas to be evaluated.

- Has the owner or operator monitored the facility at the frequency required by the regulations, permit and/or the director? Has the owner or operator monitored inside all structures on the property?

The director may not release the owner or operator from post-closure care if the gas levels at the facility cannot or have not been evaluated. The Director may require additional monitoring if gas monitoring has not been conducted as required during the post-closure care period. The most recent gas monitoring events will be evaluated in order to determine if additional gas monitoring events are warranted. Violations of the permit or regulations will be evaluated by compliance staff to determine if further action is necessary. The director may also require the owner or operator to submit information sufficient to demonstrate that the monitoring that has been performed even if it is less than 10 years/30 years is protective and appropriate.

- Is the owner or operator exceeding the LEL at the property boundary or inside structures on the property?

The director will not release the owner or operator from this post-closure monitoring if gas levels exceed regulatory thresholds. Monitoring data, at a minimum, must demonstrate that the levels of gas migrating from the disposal area has stabilized and are decreasing. Note if the property boundary has been modified due to an exceedance of the LEL at a previous property boundary.

- Have remedial measures been installed in response to exceeding the LEL?

If corrective measures have not been put in place as required by the regulations, the facility permit or the facility's gas management plan to correct the a gas migration problem, the director will not release the owner from this post-closure monitoring requirement at this time. The impact of the remedial measures on the gas levels at the site should be considered when evaluating release from post-closure monitoring.

- If remedial measures have been implemented, have they corrected the situation?

The director will not release the owner or operator from this post-closure monitoring if remedial measures have been ineffective with respect to decreasing methane levels. If the measures have been effective, evaluating gas levels for a period of time (minimum 2 years) after initiating remedial measures is recommended prior to releasing the facility from post closure.

- Has an active system been installed at the facility to control the migration of gas from the property?

If an active system has been installed, the owner or operator must demonstrate there is no potential for gas migration beyond the facility boundary or into facility structures as a result of discontinuing this system. Evaluating gas levels for a period of time (minimum 2 years) without the system operating is recommended prior to releasing the facility from post closure

- Has the owner or operator maintained all monitoring records through closure and post-closure, and are data from the monitoring events readily available for review to department staff?

If the answer to this question is no, then the director will not release the owner or operator from this post-closure monitoring requirement at this time and will require additional monitoring. (if not, then in violation of 20-80-280 D) (9 VAC 20-80-280 D requires records of monitoring to be kept through closure and post-closure)

- Has a CDD or industrial landfill performed gas monitoring prior to being released from post closure care?

If the facility accepted any organic waste streams, gas monitoring should be performed a minimum of quarterly for one year to determine if gas levels are a potential problem at the facility. Temporary punch probes should be installed at the property boundary sufficient to demonstrate gas migration is not occurring. If gas is detected, permanent probes are required combined with traditional gas monitoring at the facility boundary. If no gas is detected the facility may be released from any further responsibility for gas monitoring.

If an owner or operator is allowed to discontinue gas monitoring gas wells must be maintained or, a detailed well abandonment procedure must be submitted to the department for approval prior to wells being abandoned unless one is already provided in the facility permit.

Review leachate generation and management

(Amount generated, testing results of leachate, location of surface water/groundwater, previous system failures.)

The regulations allow for an owner or operator to cease managing leachate under the provisions of the VSWMR if it no longer poses a threat to human health and the environment (9 VAC 20-80-250 F 1 b, 9 VAC 20-80-260 F I b, and 9 VAC 20-80-270 F 1 b). The owner or operator should submit information to the department documenting that leachate no longer poses a threat to human health and the environment. This includes information on the amount of leachate generated during the life of the facility, current leachate generation rates, the composition of the leachate, proximity to surface

water and wetlands, and information on how discontinuation of leachate management systems (if found at the facility) will be achieved. Any previous leachate management system failures and alleged violations related to leachate systems should be addressed and discussed.

In order to evaluate the leachate generated and leachate management at the facility, the Director will review the answers to the following:

- Is leachate currently generated at the facility?

If the answer to this question is yes, the facility must demonstrate that discontinuation of the management of leachate is not a threat to human health and the environment. This demonstration must be submitted prior to an owner or operator being released from this post-closure requirement.

- Has the owner or operator collected and tested the leachate generated to determine its composition?

If the answer to this question is no, then the director will not release the owner or operator from this post-closure requirement at this time. Unless the leachate has been tested for waste constituents, it can not be determined that leachate does not pose a threat to human health and the environment. The analysis of the contents of the leachate should be provided as part of the demonstration that the leachate does not pose a threat to human health and the environment.

- Has the owner or operator provided data on the amount of leachate generated at the facility over the post-closure care period?

If the answer to this question is no, then the director will not release the owner or operator from post-closure at this time. This information is required by the VSWMR prior to releasing the facility from leachate management requirements.

- Has the owner or operator provided estimates of the amount of leachate to be generated in the future as required in the leachate system control design plan (9 VAC 20-80-290 A)?

If the answer to this question is no, then the director will not release the owner or operator from post-closure at this time. The estimates are required.

- Has the owner or operator maintained leachate collection systems and pumps throughout the post-closure period?

If the answer to this question is no, then the director will not release the owner or operator from post-closure at this time. Failure to maintain leachate collection systems may have prevented accurate data collection on amounts of leachate generated.

The director may allow the owner or operator to stop managing leachate under the provisions of the VSWMR if the owner or operator demonstrates that leachate no longer poses a threat to human health and the environment.

Inspect cap integrity-

When an owner/operator requests the director to terminate post-closure care requirements, department inspectors will perform a site visit to inspect the condition of the facility. The inspector will examine the entire site for evidence of previous disturbances of the cap (including a survey of structures constructed on the disposal area), the presence of vegetative cover, and evidence of erosion. In order to evaluate the conditions at the facility, the Director will review the answers to the following:

- ? Does vegetation maintenance (mowing) allow for the final cover to be inspected?
- ? Is any waste visible at the facility? This includes illegal dumping, failure of the final cover to cover the waste, failure of any sideslopes, and any litter located at the facility.
- ? Are there any places where the vegetation is not well established on the final cover? (surviving first mowing and no bare spots without vegetation)
- ? Were any areas observed where settlement or subsidence of the waste has occurred?
- ? Were any areas observed where erosion of the final cover has occurred?
- ? Was evidence of leachate seeps observed?
- ? Were any odor or vector problems noted?
- ? Were any puddles observed?
- ? Were there any grading problems present?
- ? Do facility records show that repairs have been required to the final cover within the past 3 years? (vegetation, subsidence, erosion, leachate seeps, odors/vectors, puddles/regrading)
- ? Are the stormwater controls able to contain runoff? Are they in need of cleaning?

If the answer to any of the above questions is yes, then there are problems or departmental concerns about the final cover's integrity that must be corrected or addressed before the director will release the owner or operator from this post-closure requirement. Frequent or repeated repairs could be cause for the director to require additional post-closure care.

Additionally, a site survey should be performed at the end of post-closure to determine the current elevation of the facility. This should be compared the previous site surveys to determine the amount of subsidence of the waste over the post-closure period.

Site security

- Are signs posted stating the site has closed and that waste is no longer accepted at this facility? Are gates and fences or other barriers used to prohibit unauthorized entry to the site along the entire boundary?

If the answer to either of the two preceding questions is no, then site security must be corrected before the director will release the owner or operator from this post-

closure requirement. Any use of the site following the post-closure care period may require site access to remain restricted.

Review stormwater management-

In order to evaluate the stormwater management at the facility, the Director will review the answers to the following:

- Have stormwater management controls been properly maintained at the facility throughout the life of the post-closure period?

If not, the director may extend the post-closure care period.

- Has the facility submitted information on the impact to human health and the environment posed by discontinuing the use of stormwater management controls?

If not, the director will not release the facility from post-closure at this time.

- Has the owner or operator submitted information on the frequency of stormwater pond cleaning? Do the records indicate the rate of accumulation of silt in ponds is decreasing?

If not, the director will not release the facility from post-closure at this time. Additional information will need to be provided to demonstrate that discontinuation of stormwater management will not impact human health and the environment.

Review post-closure plan

The department will also consider any additional post-closure requirements included in the facility's post-closure plan when determining the length of the post-closure period. In some cases, a post-closure plan may have been placed in a facility's operating record without being reviewed or approved by the Department (plans were required to be placed in the operating record prior to Oct. 9, 1993). Regardless of whether the Department has approved the post-closure plan, if a facility has not been performing activities outlined in the post-closure plan, the director may consider extending the post closure period if the activities discussed in the post-closure plan are not performed.

Administrative procedures

Requests to be released from post-closure requirements will be submitted to the regional office responsible for monitoring the facility's compliance with the VSWMR.

Submission Instruction #20 has been prepared to assist the regulated community with the scope of information that can be used to prepare the required evaluation. Requests involving changes to post-closure care groundwater monitoring will be forwarded to the Office of Waste Permits, Groundwater section for review. Regional compliance staff will then complete the attached checklist that outlines the questions to be considered when evaluating if the facility should be released from post-closure requirements.

Groundwater staff will review the request for the impact the change to groundwater monitoring will have on human health and the environment. As a result of the review,

the facility may be released from one or more post-closure requirements or the facility may be required to continue post-closure requirements.

Upon receiving information requesting release from the post closure period, within 30 days the regional office will acknowledge receipt of the package. The acknowledgement letter will state that all post closure care activities will continue at the facility until the department has reviewed applicable department records, reviewed the submission prepared by the permit holder and evaluated all materials relative to the request, and the director has released the facility from post-closure responsibilities.

After the regional office and/or groundwater staff has completed their review, staff will contact the Office of Financial Assurance to notify them of the intent to modify the post-closure care period. These recommendations will be based on information collected during the review. All recommendations must specify which post-closure care requirements are being revised or eliminated. If changes to the post-closure care permit impact the post-closure cost estimate, a revised post-closure cost estimate will need to be reviewed by staff and provided to the Office of Financial Assurance. The Office of Financial Assurance will revise the amount of financial assurance to be provided accordingly. Additionally, if changes are required to the post-closure plan, a permit amendment will need to be processed to incorporate the changes into the permit.

If the length of the post-closure period is extended, Financial Assurance staff will be notified of the director's decision to extend the post-closure period. Financial assurance must be provided for the additional post-closure monitoring period. In some cases, the permittee may be required to amend the post-closure care plan and amend the facility permit.

Liability beyond the end of post-closure care period

Closure and post-closure requirements are intended to prevent future releases from closed landfills. However, in the event that a future release does occur, certified compliance with those closure and post-closure requirements does not relieve owners and operators from the responsibility to take steps as necessary to protect human health and the environment.

Following release from the post closure period the owner/operator will continue to hold a permit under their original permit number. The department will remove provisions of the permit dealing with responsibilities under closure and post closure and will modify Permit Module I to include the following basic conditions:

- The cap will be inspected periodically, not to exceed quarterly and after major storm events for evidence of settlement, subsidence or erosion that could compromise the effectiveness of the final cover system. Repairs will be made as needed to the final cover system.
- Existing groundwater wells will be maintained in good working order or properly abandoned according to an abandonment procedure approved by the department.

- Existing gas monitoring wells will be maintained in good working order or will be properly abandoned according to an abandonment procedure approved by the department.
- The leachate collection system will be properly maintained in good working order or the system will be decommissioned including any ponds, forcemains or other collection appurtenances. The department will approve any decommissioning procedure.
- Stormwater conveyances will be inspected not to exceed quarterly and after major storm events for evidence of erosion. Conveyances must be maintained including ditches and ditch lining, pipes and stormwater/sediment ponds.
- Site access controls and signage will be inspected, not to exceed quarterly.
- Access to the site by department personnel will be allowed with reasonable notice.

Note :

1) §62.1-44.5 of the State Water Control Law (in the Virginia Code) states that except in a compliance with a permit it shall be unlawful to discharge sewage, industrial wastes other wastes or any noxious or deleterious substance. This section of the statute also states it is likewise unlawful to change the physical, chemical or biological properties of state waters in a manner that makes them detrimental to public health or animal or aquatic life. The definitions section of the §62.1-44.3 of the Code of Virginia states that State waters includes waters both above and below ground.

2) §10.1-1183 of the Code of Virginia states that it is the policy of the Department of Environmental Quality to protect the environment of Virginia.

3) Article XI, Section I of the Virginia Constitution of Virginia states that it is the policy of the Commonwealth to protect the atmosphere, lands and water of the from pollution impairment or destruction.